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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/327,167 06/07/99 ENOMOTO

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EXAMINER

GRAINGER, Q

ART UNIT

PAPER NUMBER

2852

DATE MAILED:

06/23/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.
09/327,167

Applicant
Enomoto et al.

Examiner
Quana Grainger

Group Art Unit
2852



☒ Responsive to communication(s) filed on Apr 20, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-14 and 16-84 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3, 14, 16-30, and 36-81 is/are rejected.

☒ Claim(s) 4-13, 31-35, and 82-84 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 7

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Title

1. The new title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 14, 16-27, 29-30, and 36-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlueter, Jr. et al. The image forming apparatus by Schlueter, Jr. et al. comprising image bearing means for bearing a toner image; an intermediary transfer member, wherein the toner image is electrostatically transferred from said image bearing means onto said intermediary transfer member, and then transferred from said intermediary transfer member onto a transfer material; wherein said intermediary transfer member includes a first layer, a second layer on said first layer and a third layer on said second layer, for receiving the toner image from said image bearing means (column 11, lines 54-59), and wherein a volume resistivity of said first layer is smaller than that of said third layer (column 7, lines 60-66), and a volume resistivity of said third layer is smaller than that of said second layer (column 4, lines 18-20). The volume resistivity of said third layer is 10^{11} to 10^{14} Ohm.cm (column 7, lines 60-66). The apparatus further has

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transfer means 111 for electrostatically transferring the toner image from said image bearing means onto said intermediary transfer member, wherein said transfer means applied a voltage to such a side of said intermediary transfer member as is opposite from a side thereof for receiving the toner image. The intermediary transfer member is in the form of a belt (Figure 3). The apparatus further has supporting means for supporting said intermediary transfer member and the supporting means is provided with a plurality of rollers (Figure 6). The voltage has a polarity opposite from a regular charging polarity of the toner to cause the transfer of the toner from the image bearing member to the intermediate transfer member. The transfer means 111 is provided with a voltage source for supplying the voltage. The first layer is elastic. The first layer is a rubber layer. The image bearing means is provided with an image bearing member capable of bearing different color toner images (Figure 6). The transfer means for applying a voltage to said first layer to electrostatically transfer the toner image to said intermediary transfer member from said image bearing member. The first layer is coated with said second layer. The second layer is coated with said third layer. The first layer is coated with said second layer, and said second layer is coated with said third layer. The volume resistivity of said second layer is 10^{11} to 10^{15} Ohm.cm (column 4, lines 18-20).

4. Claims 46-49, 63-65, 68-77, and 81 are rejected under 35 U.S.C. 102(b) as being anticipated by Nanba. The image forming apparatus by Nanba teaches an image bearing means 10 for bearing a toner image; an intermediary transfer member 20; wherein the toner image is electrostatically transferred from said image bearing means onto said intermediary transfer

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member 20, and then transferred from said intermediary transfer member 20 onto a transfer material; wherein said intermediary transfer member 20 includes a first layer 22 and a second layer 21, provided on said first layer, for receiving the toner image from said image bearing means, and wherein said second layer has a volume resistivity smaller than that of said first layer (constitution: lines 1-5). The volume resistivity of said first layer is 10^{11} to 10^{15} Ohm.cm and the volume resistivity of said second layer is 10^{10} to 10^{14} Ohm.cm (constitution: lines 1-5). The volume resistivity of said first layer is 10^{11} to 10^{15} Ohm.cm, and the volume resistivity of said second layer is 10^{10} to 10^{14} Ohm.cm (constitution: lines 1-5). The apparatus further has transfer means 30 for electrostatically transferring the toner image from said image bearing means onto said intermediary transfer member, wherein said transfer means applied a voltage to such a side of said intermediary transfer member as is opposite from a side thereof for receiving the toner image. The intermediary transfer member is in the form of a belt (Figure 1). The apparatus further has supporting means for supporting said intermediary transfer member and the supporting means is provided with a plurality of rollers (Figure 1). The voltage has a polarity opposite from a regular charging polarity of the toner to cause the transfer of the toner from the image bearing member to the intermediate transfer member. The transfer means is provided with an unillustrated voltage source for supplying the voltage. A plurality of the toner images are transferred onto said intermediary transfer member so that an overlaid toner image is formed thereon, and the overlaid images are transferred from said intermediary transfer member onto the transfer material (Figure 1). The image bearing means 10 is provided with an image bearing member capable of bearing

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different color toner images. The image bearing means 10 is provided with a plurality of image bearing members for bearing different color toner images, respectively. The intermediary transfer member is in the form of a belt 20.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schlueter, Jr. et al. in view of Takekoshi et al. Schlueter, Jr. et al. does not teach an apparatus wherein the image bearing means is provided with a plurality of image bearing members.

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Takekoshi et al. teaches an apparatus wherein the image bearing means is provided with a plurality of image bearing members. Takekoshi et al. teaches an image forming apparatus having either a plurality of image bearing members or a single image bearing member and a transfer means.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Takekoshi et al. with the image forming apparatus of Schlueter, Jr. et al. since the examiner takes official notice of the equivalence of a color image forming apparatus having a single image bearing member and a plurality of image bearing members and the selection of any of these known equivalents to provide a color image forming apparatus would be within ordinary skill in the art.

8. Claims 50-57, 60-62, and 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanba in view of Takekoshi et al. Nanba teaches an apparatus wherein a plurality of the toner images are transferred onto said intermediary transfer member so that an overlaid toner image is formed thereon, and the overlaid images are transferred from said intermediary transfer member onto the transfer material (Figure 1). The image bearing means is provided with an image bearing member capable of bearing different color toner images (Figure 1). The image bearing means is provided with a plurality of image bearing members for bearing different color toner images, respectively (Figure 1). The apparatus further has a transfer means for electrostatically transferring the toner image from said image bearing means onto said intermediary transfer member, wherein said transfer means applied a voltage to such a side of said

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intermediary transfer member as is opposite from a side thereof for receiving the toner image (Figure 1). A plurality of the toner images are transferred onto said intermediary transfer member so that an overlaid toner image is formed thereon. Nanba does not teach that the second layer has a thickness of 1-5 microns.

Takekoshi et al. teaches a second layer has a thickness of 1-5 microns. The intermediary transfer member is provided with a base layer 83 for supporting said first layer. The intermediary transfer member wherein a first layer has a thickness larger than that of a second layer (Figure 4). The base layer is not recited as being an elastic or rubber layer; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the appropriate material for the base layer since it has been held that selecting a known material on the basis of its suitability for the intended use is a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Takekoshi et al. with the image forming device of Nanba to select the appropriate thickness for the top layer of the intermediate transfer member.

9. Claims 59 and 66-67 rejected under 35 U.S.C. 103(a) as being unpatentable over Nanba in view of Takeuchi et al. Nanba does not teach a transfer roller nor discuss the polarity of charging voltage.

Takeuchi et al. teaches a transfer means is provided with a roller contactable to such a side of said intermediary transfer member as is opposite from a side thereof for receiving the toner image (Figure 1). The transfer means is provided with a voltage source 62 for supplying the

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voltage. The transfer means is provided with a roller contactable to such a side of said intermediary transfer member as is opposite from a side thereof for receiving the toner image (Figure 1). The apparatus further comprising charging means 2 for charging a surface of said image bearing means to a polarity which is the same as a regular charging polarity of the toner (column 6, lines 46-54, column 6, lines 11-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a transfer roller as taught by Takeuchi et al. in place of a corona charging device of Nanba to reduce ozone.

10. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nanba in view of Takekoshi as applied to claims 50, 52-57, 60-62, 78, and 80 above, and further in view of Takeuchi et al. Nanba does not teach a transfer roller nor discuss the polarity of charging voltage.

Takeuchi et al. teaches an apparatus utilizes normal developing in that the charging voltage has a polarity opposite from a regular charging polarity of the toner (column 6, lines 46-54, column 6, lines 11-20). The transfer means is provided with a voltage source 73 for supplying the voltage. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the appropriate polarity for the charging voltage since the examiner takes official notice that normal development and reverse development are functionally equivalent methods of forming toner images in an image forming device and the selection of any of these known equivalents to form a toner image would be within the level of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to

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use a transfer roller as taught by Takeuchi et al. in place of a corona charging device of Nanba to reduce ozone.

Allowable Subject Matter

11. Claims 4-13, 31-35, and 82-84 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims recite an apparatus wherein the volume resistivity of said second layer is 10^{11} to 10^{15} Ohm.cm, and the volume resistivity of said third layer is 10^{10} to 10^{14} Ohm.cm; an apparatus wherein said third layer has a thickness of 1-5 microns; and an apparatus wherein said intermediary transfer member is provided with a base layer, and said base layer is coated with said first layer. The remaining claims also contain these recitations due to dependency.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana Grainger whose telephone number is (703) 308-7616. The examiner can normally be reached on M-F from 7:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (703) 308-1373. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308- 0956.



Quana Grainger
Patent Examiner
June 22, 2000